

REVISIONS TO CLAIMS

1 1. (previously presented) Method of recording information in units on a record carrier having a
2 track for consecutively recording the information units at addressable locations, the information
3 being represented in the track by series of marks of different runlengths between a minimum
4 runlength and a maximum runlength and synchronizing patterns of marks, which patterns do not
5 occur in the series of marks and comprise at least one long mark of at least the maximum
6 runlength, said method comprising:
7 (a) encoding at least one information unit into a modulated signal comprising signal elements
8 corresponding to said marks,
9 (b) scanning said track up to a link position before a selected one of said addressable locations,
10 and
11 (c) recording the modulated signal from the link position,
12 (d) the modulated signal is provided at the begin and/or at the end with a link signal element
13 corresponding to a link mark of at most the minimum runlength.

2. (previously presented) Method as claimed in claim 1, wherein the link signal element
corresponds to a mark shorter than the minimum runlength.

1 3. (previously presented) Device for recording information in units on a record carrier having a
2 track for consecutively recording the information units at addressable locations, the information
3 being represented in the track by series of marks of different runlengths between a minimum
4 runlength and a maximum runlength and synchronizing patterns of marks, which patterns do not

REVISIONS TO CLAIMS

5 occur in the series of marks and comprise at least one long mark of at least the maximum
6 runlength, said device comprising
7 encoding means for encoding at least one information unit into a modulated signal
8 comprising signal elements corresponding to said marks, and
9 recording means for scanning said track up to a link position before a selected one of said
10 addressable locations and recording the modulated signal from the link position,
11 the encoding means are arranged for providing the modulated signal at the begin and/or
12 at the end with a link signal element corresponding to a link mark of at most the minimum
13 runlength.

4. (previously presented) Device as claimed in claim 3, wherein said runlengths are expressed in steps of a channel bit, and the encoding means are arranged for providing the link signal element corresponding to a link mark one channel bit shorter than the minimum runlength.

5. (previously presented) Device as claimed in claim 3, wherein the encoding means comprise synchronizing means for providing said at least one long mark in the synchronizing pattern at a runlength longer than the sum of the maximum runlength and the runlength of the link mark.

1 6. (previously presented) Device as claimed in claim 3, wherein the encoding means comprise
2 synchronizing means for providing the synchronizing pattern having said at least one long mark
3 followed by a short mark of a runlength shorter than the maximum runlength, and the encoding
4 means are arranged for providing a second link signal element after the link signal element at the

REVISIONS TO CLAIMS

5 begin of the modulated signal, the second link signal element corresponding to a mark differing
6 from the short mark.

1 7. (previously presented) Device as claimed in claim 3, wherein the encoding means comprise
2 means for variably selecting one out of a set of fixed linking sequences that each start with the
3 link signal element followed by further signal elements for recording marks up to a first
4 synchronizing pattern, substantially half of the linking sequences of the set having an odd
5 number of mark boundaries.

1 8. (currently amended) Device for recording information in units on a record carrier having a
2 track for consecutively recording the information units at addressable locations, the information
3 being represented in the track by series of marks of different runlengths between a minimum
4 runlength and a maximum runlength and synchronizing patterns of marks, which patterns do not
5 occur in the series of marks and comprise at least one long mark of at least the maximum
6 runlength, said device comprising
7 encoding means for encoding at least one information unit into a modulated signal
8 comprising signal elements corresponding to said marks, and
9 recording means for scanning said track up to a link position before a selected one of said
10 addressable locations and recording the modulated signal from the link position,
11 the encoding means are arranged for providing the modulated signal at the begin and/or
12 at the end with a link signal element corresponding to a link mark of at most the minimum
13 runlength.

REVISIONS TO CLAIMS

14 wherein the encoding means comprise means for variably selecting one out of a set of
15 fixed linking sequences that each start with the link signal element followed by further signal
16 elements for recording marks up to a first synchronizing pattern, substantially half of the linking
17 sequences of the set having an odd number of mark boundaries Device as claimed in claim 7,
18 wherein the linking sequences have a fixed length of 8 channel bits, and the set of fixed
19 linking sequences comprises 10100000 and 10100100, or 10010000 and 10010010, each 1
20 indicating a mark boundary.

9. (previously presented) Device as claimed in claim 3, wherein the device comprises means
compressing digital or analog input signals into units of information.

10. (previously presented) The device of claim 9, wherein the input signals are audio and/or
video signals.

11. (previously presented) Device as claimed in claim 4, wherein the encoding means comprise
synchronizing means for providing said at least one long mark in the synchronizing pattern at a
runlength longer than the sum of the maximum runlength and the runlength of the link mark.

12. (previously presented) A record carrier produced by the method of claim 1.

1 13. (previously presented) A method comprising:
2 encoding an information unit;

REVISIONS TO CLAIMS

3 forming a recording signal of signal elements, the recording signal containing: a linking
4 signal element, a synchronizing pattern of signal elements, and the encoded information unit;
5 selecting an addressable location on the track of a record carrier;
6 scanning the track up to a link position before the selected addressable location, and
7 recording the recording signal as marks corresponding to the signal elements and starting
8 at the link position, the marks having different run lengths, the marks representing the
9 information unit having run lengths that vary from a minimum run length to a maximum
10 runlength, the pattern of marks representing the synchronizing pattern not occurring in the marks
11 representing the information unit and including a long mark of at least the maximum runlength,
12 the mark representing the link signal element having a run length of at most the minimum
13 runlength.

1 14. (previously presented) A recording device comprising:

2 encoding means for encoding at least one information unit, and for variably selecting one
3 out of a set of fixed linking sequences that each start with a link signal element followed by
4 further signal elements, and for providing a recording signal of signal elements, the recording
5 signal containing the selected linking sequence, a synchronizing pattern, and the encoded
6 information unit; and
7 recording means for selecting an addressable location in the track of a record carrier, and
8 for scanning said track up to a link position before the selected addressable location and for
9 recording the recording signal starting at the link position, the marks having different run
10 lengths, the marks representing the information unit having run lengths that vary from a
11 minimum run length to a maximum runlength, the pattern of marks representing the

REVISIONS TO CLAIMS

- 12 synchronizing pattern not occurring in the marks representing the information unit and including
13 a long mark of at least the maximum runlength, the mark representing the link signal element
14 having a run length of at most the minimum runlength.

1 15. (currently amended) Method of recording information in units on a record carrier having a
2 track for consecutively recording the information units at addressable locations, the information
3 being represented in the track by series of marks of different runlengths between a minimum
4 runlength and a maximum runlength and synchronizing patterns of marks, which patterns do not
5 occur in the series of marks and comprise at least one long mark of at least the maximum
6 runlength, said method comprising:

7 (a) encoding at least one information unit into a modulated signal comprising signal elements
8 corresponding to said marks.

9 (b) scanning said track up to a link position before a selected one of said addressable locations,
10 and

11 (c) recording the modulated signal from the link position.

12 (d) the modulated signal is provided at the begin and/or at the end with a link signal element
13 corresponding to a link mark of at most the minimum runlength. ~~The method of claim 1,~~

14 wherein:

15 the runlengths are expressed in steps of a channel bit, and the link signal element is one
16 channel bit shorter than the minimum runlength;

17 the at least one long element in the synchronizing pattern has a runlength longer than the
18 sum of the maximum runlength and the runlength of the link element;

REVISIONS TO CLAIMS

19 in the synchronizing pattern the at least one long element is followed by a short element
20 of a runlength shorter than the maximum runlength;

21 the recording signal includes a first link signal element at the beginning of the recording
22 signal and a second link signal element immediately following the first link signal element, the
23 second link signal element having a different runlength than the first link signal element;

24 the method further comprises variably selecting one out of a set of fixed linking
25 sequences that each start with the link signal element followed by further signal elements, the
26 further signal elements being immediately followed by a first synchronizing pattern, and
27 substantially half of the linking sequences of the set having an odd number of element
28 boundaries;

29 the linking sequences have a fixed length of 8 channel bits, and the set of fixed linking
30 sequences including 10100000 and 10100100, or 10010000 and 10010010, each 1 indicating a
31 element boundary; and

32 the method further comprises processing or compressing digital or analog input signals
33 such as audio and/or video into units of information.

1 16. (previously presented) A method comprising:

2 encoding an information unit;

3 variably selecting one out of a set of fixed linking sequences that each start with a link
4 signal element followed by further signal elements;

5 forming a recording signal of signal elements, the recording signal containing: the
6 selected linking sequence, a synchronizing pattern, and the encoded information unit;

7 selecting an addressable location on the track of a record carrier;

REVISIONS TO CLAIMS

8 scanning the track up to a link position before the selected addressable location, and
9 recording the recording signal as marks corresponding to the signal elements and starting
10 at the link position, the marks having different run lengths, the marks representing the
11 information unit having run lengths that vary from a minimum run length to a maximum
12 runlength, the pattern of marks representing the synchronizing pattern not occurring in the marks
13 representing the information unit and including a long mark of at least the maximum runlength,
14 the mark representing the link signal element having a run length of at most the minimum
15 runlength, the linking sequences each have a fixed length of 8 channel bits, the set of fixed
16 linking sequences being selected from: a first set including 10100000 and 10100100; and a
17 second set including 10010000 and 10010010; wherein each 1 indicating a mark boundary and
18 the number of 0's between 1's indicating the run length between mark boundaries.

1 17. (previously presented) A recording device comprising:

2 encoding means for encoding at least one information unit, and for variably selecting one
3 out of a set of fixed linking sequences that each start with a link signal element followed by
4 further signal elements, and for providing a recording signal of signal elements, the recording
5 signal containing the selected linking sequence, a synchronizing pattern, and the encoded
6 information unit; and
7 recording means for selecting an addressable location in the track of a record carrier, and
8 for scanning said track up to a link position before the selected addressable location and for
9 recording the recording signal starting at the link position, the marks having different run
10 lengths, the marks representing the information unit having run lengths that vary from a
11 minimum run length to a maximum runlength, the pattern of marks representing the

REVISIONS TO CLAIMS

12 synchronizing pattern not occurring in the marks representing the information unit and including
13 a long mark of at least the maximum runlength, the mark representing the link signal element
14 having a run length of at most the minimum runlength, the linking sequences each have a fixed
15 length of 8 channel bits, the set of fixed linking sequences being selected from: a first set
16 including 10100000 and 10100100; and a second set including 10010000 and 10010010; wherein
17 each 1 indicating a mark boundary and the number of 0's between 1's indicating the run length
18 between mark boundaries.

18 - 22 (withdrawn)

1 23. (currently amended) Method of recording information in units on a record carrier having a
2 track for consecutively recording the information units at addressable locations, the information
3 being represented in the track by series of marks of different runlengths between a minimum
4 runlength and a maximum runlength and synchronizing patterns of marks, which patterns do not
5 occur in the series of marks and comprise at least one long mark of at least the maximum
6 runlength, said method comprising:
7 (a) encoding at least one information unit into a modulated signal comprising signal elements
8 corresponding to said marks,
9 (b) scanning said track up to a link position before a selected one of said addressable locations,
10 and
11 (c) recording the modulated signal from the link position,
12 (d) the modulated signal is provided at the begin and/or at the end with a link signal element
13 corresponding to a link mark of at most the minimum runlength. ~~The method of claim 1,~~

REVISIONS TO CLAIMS

14 wherein the link signal element is part of a linking section having a total length
 15 substantially less than the length of a frame and sufficiently short to be compatible with CD-R,
 16 CD-RW, DVD, and DVD-RW.

1 24. (currently amended) Device for recording information in units on a record carrier having a
 2 track for consecutively recording the information units at addressable locations, the information
 3 being represented in the track by series of marks of different runlengths between a minimum
 4 runlength and a maximum runlength and synchronizing patterns of marks, which patterns do not
 5 occur in the series of marks and comprise at least one long mark of at least the maximum
 6 runlength, said device comprising
 7 _____ encoding means for encoding at least one information unit into a modulated signal
 8 comprising signal elements corresponding to said marks, and
 9 _____ recording means for scanning said track up to a link position before a selected one of said
 10 addressable locations and recording the modulated signal from the link position,
 11 the encoding means are arranged for providing the modulated signal at the begin and/or
 12 at the end with a link signal element corresponding to a link mark of at most the minimum
 13 runlength. The device of claim 3,

14 wherein the link signal element is part of a linking section having a total length
 15 substantially less than the length of a frame and sufficiently short to be compatible with CD-R,
 16 CD-RW, DVD, and DVD-RW.

1 25. (currently amended) A method comprising:
 2 _____ encoding an information unit;

REVISIONS TO CLAIMS

3 forming a recording signal of signal elements, the recording signal containing: a linking
 4 signal element, a synchronizing pattern of signal elements, and the encoded information unit;
 5 selecting an addressable location on the track of a record carrier;
 6 scanning the track up to a link position before the selected addressable location, and
 7 recording the recording signal as marks corresponding to the signal elements and starting
 8 at the link position, the marks having different run lengths, the marks representing the
 9 information unit having run lengths that vary from a minimum run length to a maximum
 10 runlength, the pattern of marks representing the synchronizing pattern not occurring in the marks
 11 representing the information unit and including a long mark of at least the maximum runlength,
 12 the mark representing the link signal element having a run length of at most the minimum
 13 runlength. The method of claim 13,
 14 wherein the link signal element is part of a linking section having a total length
 15 substantially less than the length of a frame and sufficiently short to be compatible with CD-R,
 16 CD-RW, DVD, and DVD-RW.

1 26. (currently amended) A recording device comprising:
 2 encoding means for encoding at least one information unit, and for variably selecting one
 3 out of a set of fixed linking sequences that each start with a link signal element followed by
 4 further signal elements, and for providing a recording signal of signal elements, the recording
 5 signal containing the selected linking sequence, a synchronizing pattern, and the encoded
 6 information unit; and
 7 recording means for selecting an addressable location in the track of a record carrier, and
 8 for scanning said track up to a link position before the selected addressable location and for

REVISIONS TO CLAIMS

9 recording the recording signal starting at the link position, the marks having different run
 10 lengths, the marks representing the information unit having run lengths that vary from a
 11 minimum run length to a maximum runlength, the pattern of marks representing the
 12 synchronizing pattern not occurring in the marks representing the information unit and including
 13 a long mark of at least the maximum runlength, the mark representing the link signal element
 14 having a run length of at most the minimum runlength~~The device of claim 14,~~

15 wherein the link signal element is part of a linking section having a total length
 16 substantially less than the length of a frame and sufficiently short to be compatible with CD-R,
 17 CD-RW, DVD, and DVD-RW.

1 27. (currently amended) Method of recording information in units on a record carrier having a
 2 track for consecutively recording the information units at addressable locations, the information
 3 being represented in the track by series of marks of different runlengths between a minimum
 4 runlength and a maximum runlength and synchronizing patterns of marks, which patterns do not
 5 occur in the series of marks and comprise at least one long mark of at least the maximum
 6 runlength, said method comprising:

7 (a) encoding at least one information unit into a modulated signal comprising signal elements
 8 corresponding to said marks,

9 (b) scanning said track up to a link position before a selected one of said addressable locations,
 10 and

11 (c) recording the modulated signal from the link position,

12 (d) the modulated signal is provided at the begin and/or at the end with a link signal element
 13 corresponding to a link mark of at most the minimum runlength~~The method of claim 1,~~

REVISIONS TO CLAIMS

14 wherein the information units are organized into ECC units and the method further
15 comprises recording the link signal element at the end of the last C1 code word of the previous
16 ECC unit.

28. (previously presented) The method of claim 27, wherein the link position is after byte 178 of the last C1 code word.

29. (previously presented) The method of claim 27, further comprising introducing a small random shift of the link position to improve direct overwrite cycles.

1 30. (currently amended) Method of recording information in units on a record carrier having a
2 track for consecutively recording the information units at addressable locations, the information
3 being represented in the track by series of marks of different runlengths between a minimum
4 runlength and a maximum runlength and synchronizing patterns of marks, which patterns do not
5 occur in the series of marks and comprise at least one long mark of at least the maximum
6 runlength, said method comprising:
7 (a) encoding at least one information unit into a modulated signal comprising signal elements
8 corresponding to said marks,
9 (b) scanning said track up to a link position before a selected one of said addressable locations,
10 and
11 (c) recording the modulated signal from the link position,
12 (d) the modulated signal is provided at the begin and/or at the end with a link signal element
13 corresponding to a link mark of at most the minimum runlength ~~The method of claim 1,~~

REVISIONS TO CLAIMS

14 | wherein the link position is placed 8 channel bits before a boundary between ECC blocks.

31. (previously presented) The method of claim 23, wherein the link mark is selected from a pre-determined set of linking sequences that each start with a link mark followed by a predefined but different number of mark boundaries.